

FPD BCI Senior Staff

Why is Change Needed?

Internal challenges include rising costs, schedule delays, disparate processes, diminishment of institutional processes and tools, a need to ensure optimally-trained staff, and a retirement wave that will seriously impact our need to capture knowledge and best practices

External challenges include a significant increase in external reviews and data requests; greater competition and stakeholder pressure; significant perceptions of GSFC's budgeting and scheduling challenges; and our peers have made strides in all aspects and are outmaneuvering and marketing on our weaknesses (e.g., Goddard is good but they won't stay within budget or on schedule)

Our world is changing as evidenced by recent GAO findings that NASA is not managing its projects well; budgets are tightening that will lead to additional scrutiny for selection – past performance does matter; being the “most technically competent” will no longer be enough

We are recognized globally as being world class in mission development and execution of projects, but we are not consistently utilizing best practices or being recognized for staying within budget or on schedule , and this has to change now!

Our Goal – FPD consistently applies the best practices and actions to ensure cost effective and on-time delivery of all projects

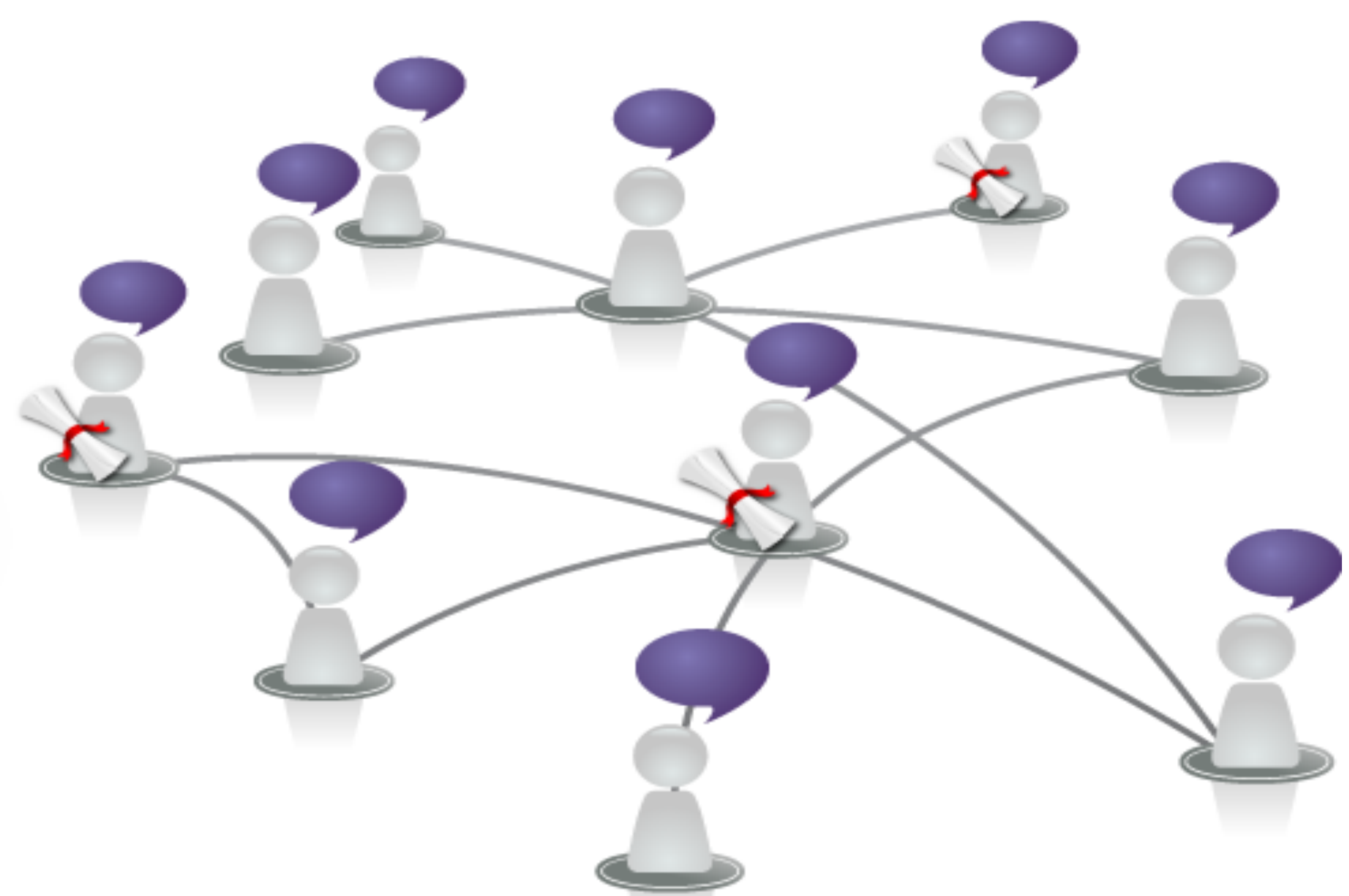
Current State



A disparate community with pockets of expertise that are not well known and where projects create their own unique solutions to solve problems



Future State

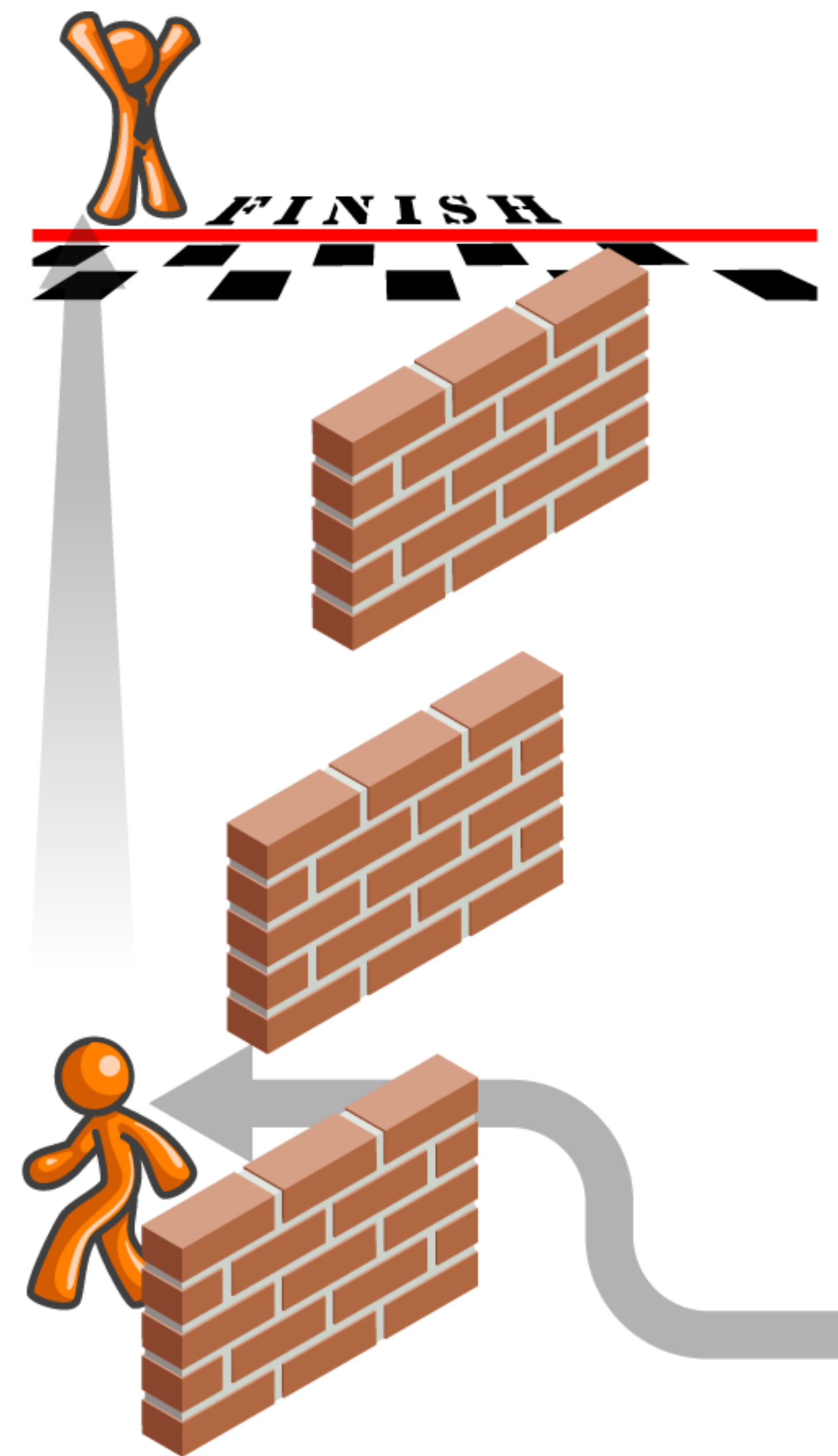
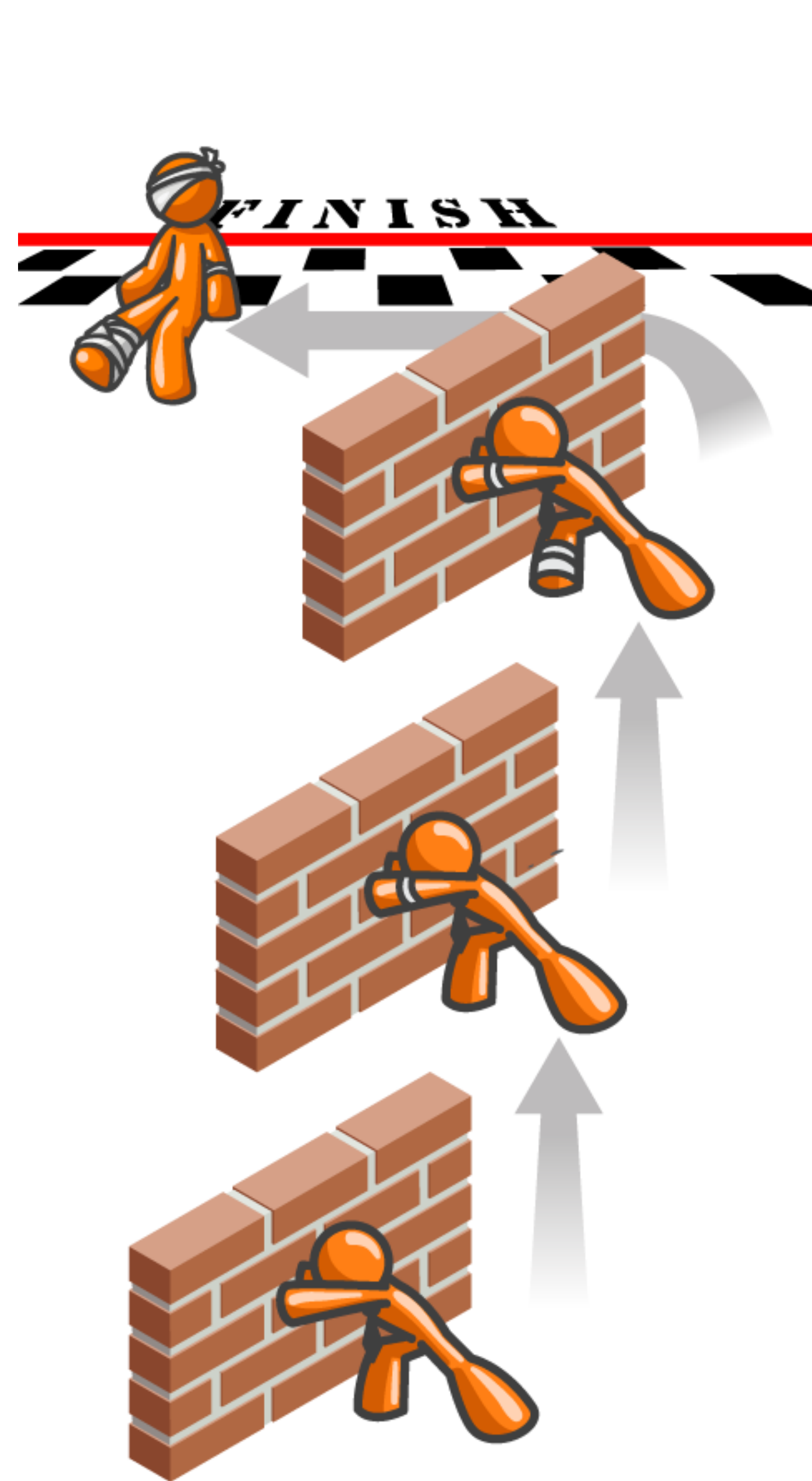


An integrated community to educate, openly share and instill best practices across the organization and within the projects

Our ideal state is to be recognized as world class in all three elements of project management — cost, schedule and technical management—with known subject matter experts integrated across the community. We need your assistance in identifying and supporting your SMEs in this role

The Brick Wall Paradigm

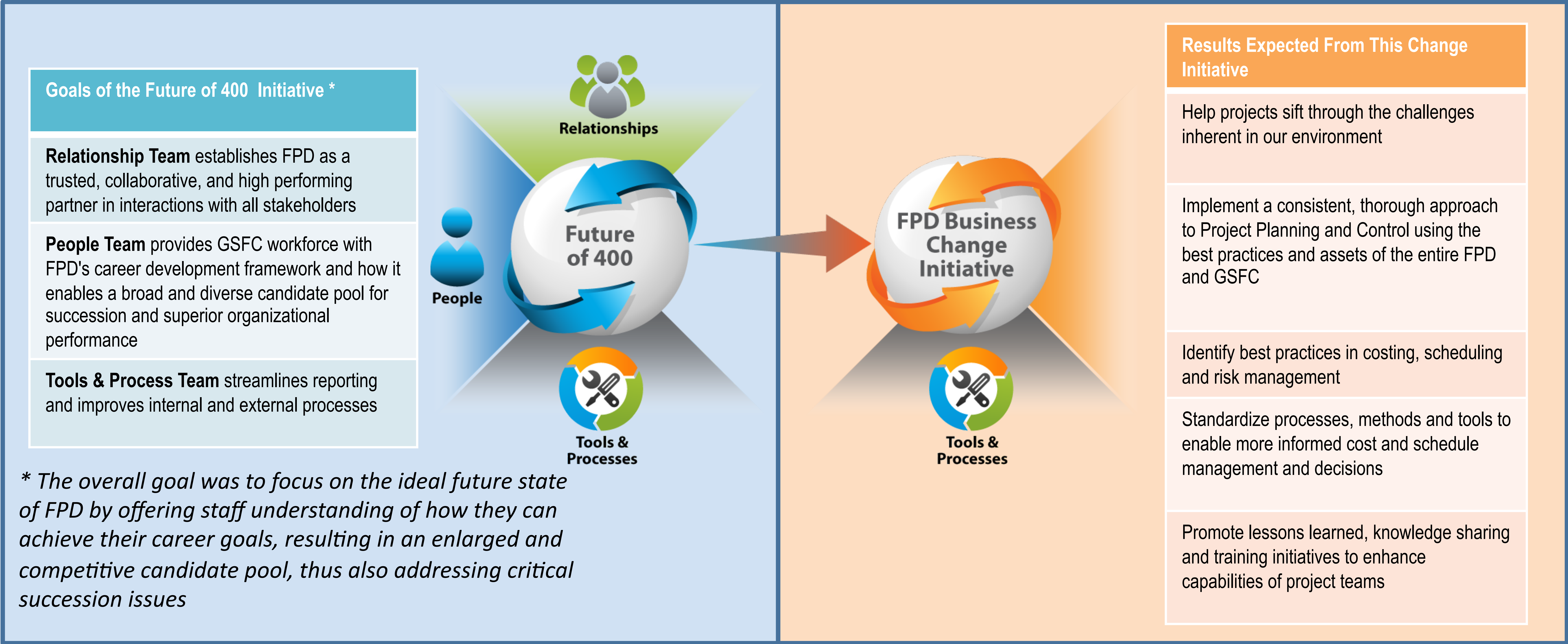
Projects like to solve problems on their own... but that's part of our problem



Projects will always run into problems but solutions to our problems can be developed collaboratively. Duplication can be avoided by leveraging people, processes, tools and innovation to avoid problems and reach the finish line

No more brick walls – by leveraging the FPD front office leadership, Center resources and the strong leadership abilities of the Senior Leadership FPD community, we collectively can avoid running into brick walls. Our projects must use available tools, capabilities, knowledge and hard-earned experiences to find a way over, break down or remove brick walls! The FPD needs to provide that assistance

The **Creating a New Future** (Future of 400) initiative allowed us to focus on people, relationships, tools and processes. **The new FPD Business Change Initiative** is leveraging the framework established by the Future of 400 and focusing on the business tools and processes needing improvement



The Future of 400 Initiative –
Creating a New Future

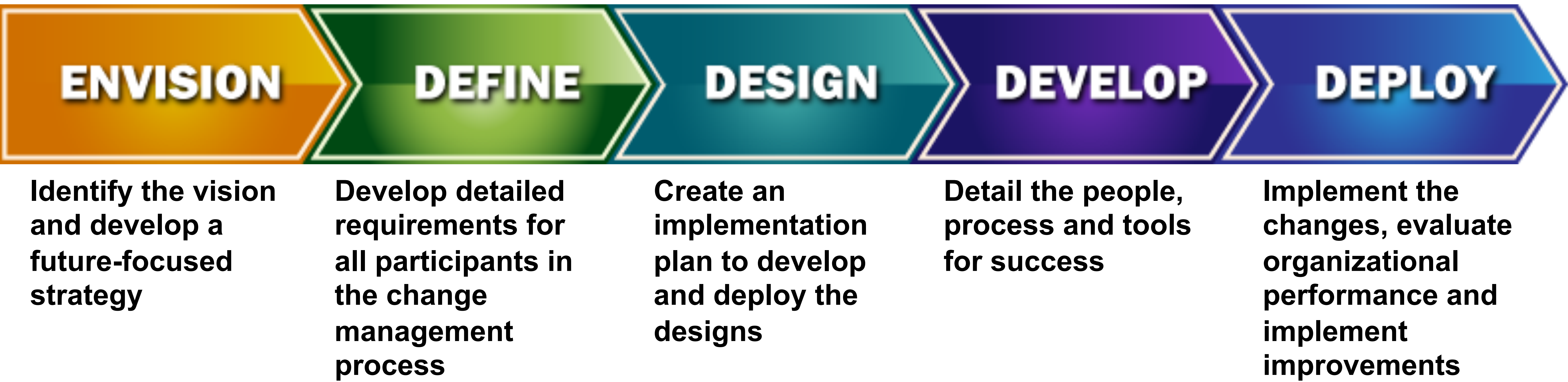
The Flight Project Directorate
Business Change Initiative

FPD Business Change Initiative

- Code 400 started the Business Change Initiative in late 2011. Five Action Teams focus on tangible actions to improve our processes and effectiveness and for transference of knowledge and best practices:
 - Scheduling Action Team
 - Management Reporting Action Team
 - Earned Value Management Action Team
 - Business Rapid Information Skills & Knowledge Action Team
 - Cost Estimating Action Team
- Action Teams will progress through a five-step process that guides the change from concept vision and definition through rollout and deployment
- Collaboration is key—the Business Change Initiative is primarily driven by Code 400 civil servants and contractors but coordinated with the Code 110 Human Capital Integrated Plan and initiatives in Code 150, Office of the Chief Financial Officer as well as activities in Code 500, Applied Engineering and Technology Directorate (AETD). While our main focus is Code 400, we will involve other directorates and leverage outside resources as appropriate
- As we go forward, we can use this change construct to tackle other process changes in the Directorate or at the Center

Our Approach

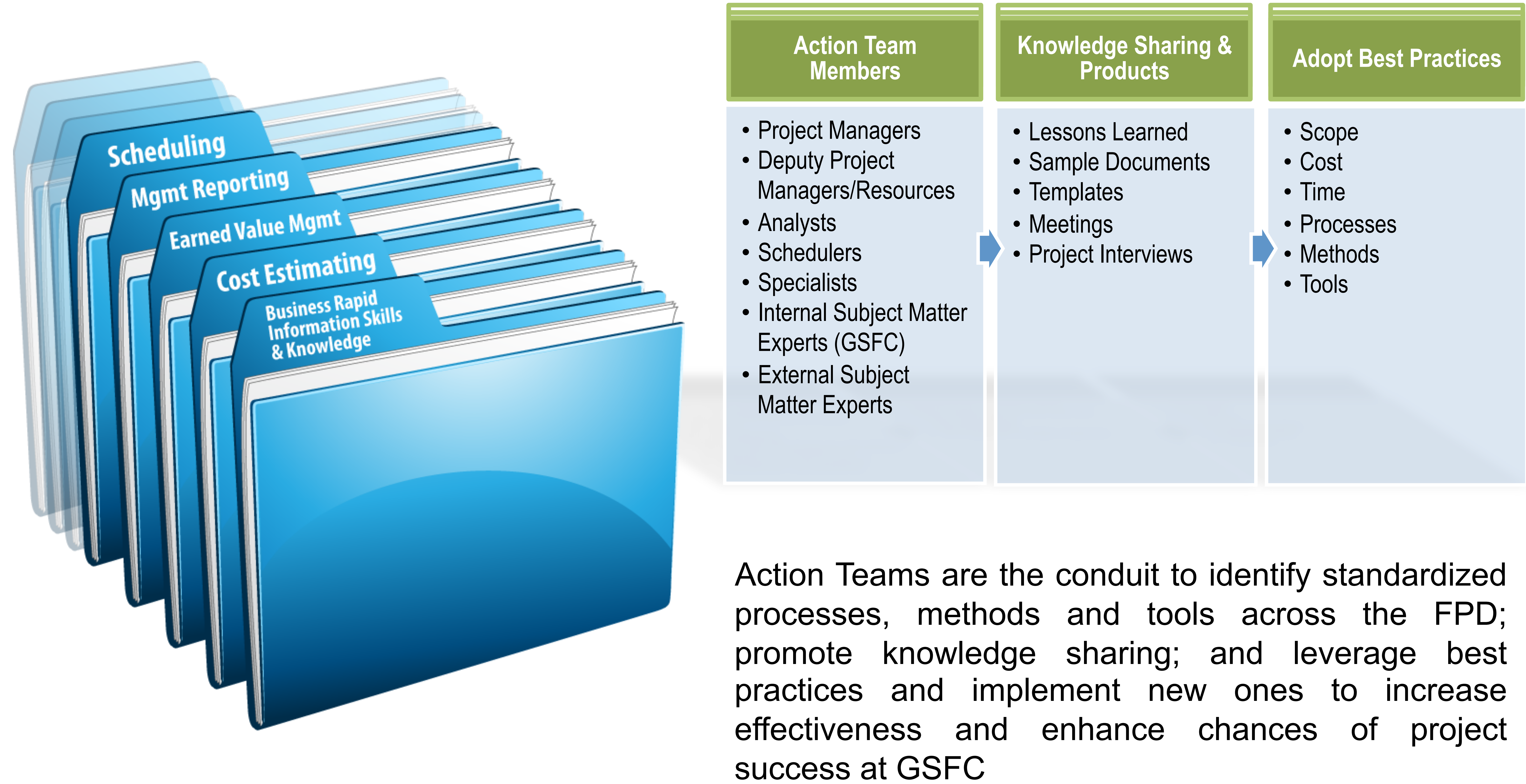
A transformational process that utilizes recognized best practices and subject matter experts to create an integrated and technical community of expert practitioners



Multiple action teams in different phases are progressing through the change continuum which will determine best practices to improve the overall project management capabilities of the FPD

Action Teams

Five initial Action Teams establish the scope and general themes:



THE FLIGHT PROJECTS DIRECTORATE BUSINESS CHANGE INITIATIVE



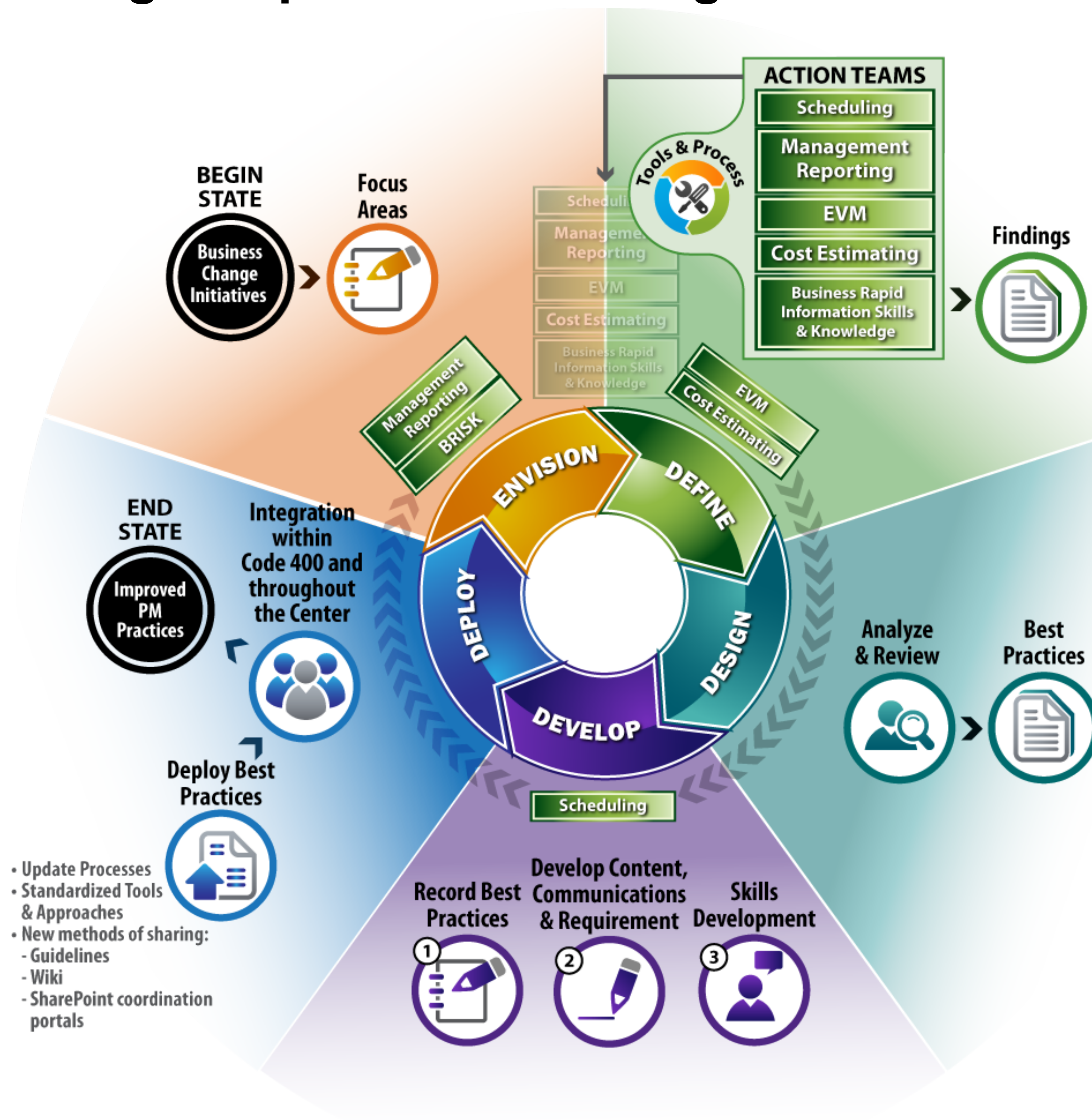
Action Teams follow a simple and repeatable eight step process:



...and key findings, best practices, and subject matter expert discovery will be captured and shared along the way

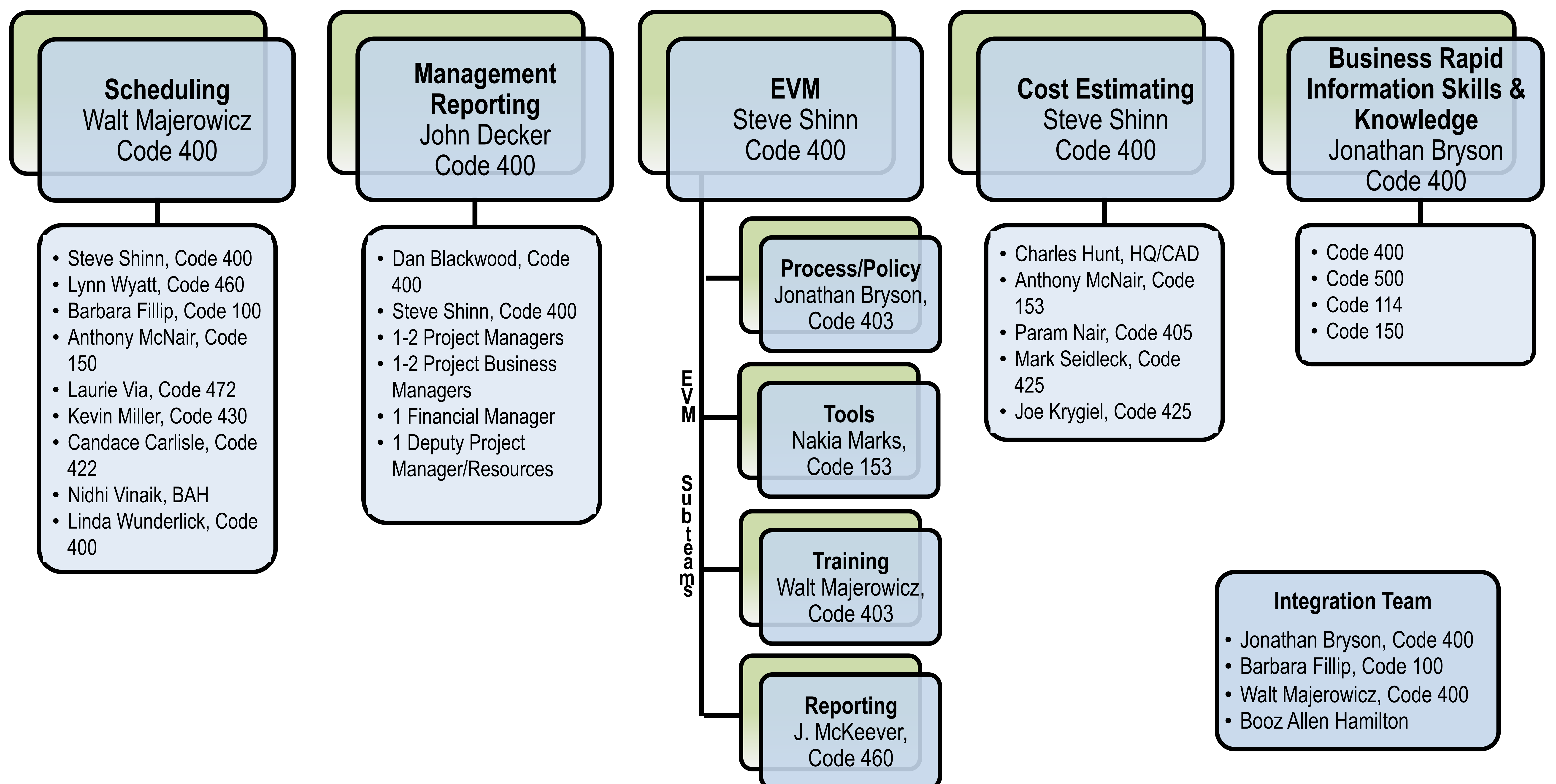
Action Integration Team ensures consistency among Action Teams and knowledge sharing

Our Strategic Improvement Change Continuum Process Overview

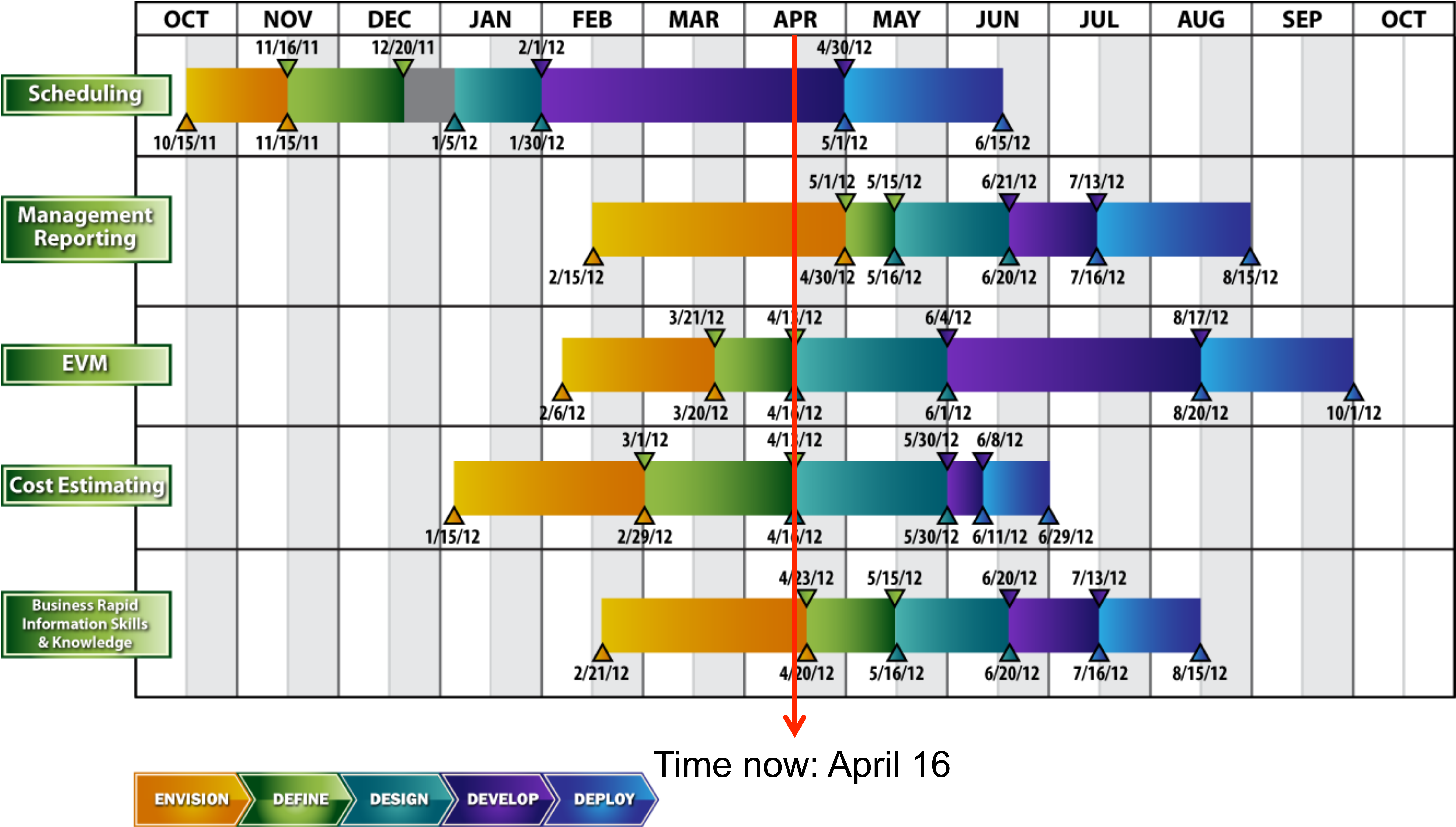


We define the activities, methodologies, and techniques needed to transform the organization through the entire life cycle, which extends from concept vision and definition through rollout and deployment

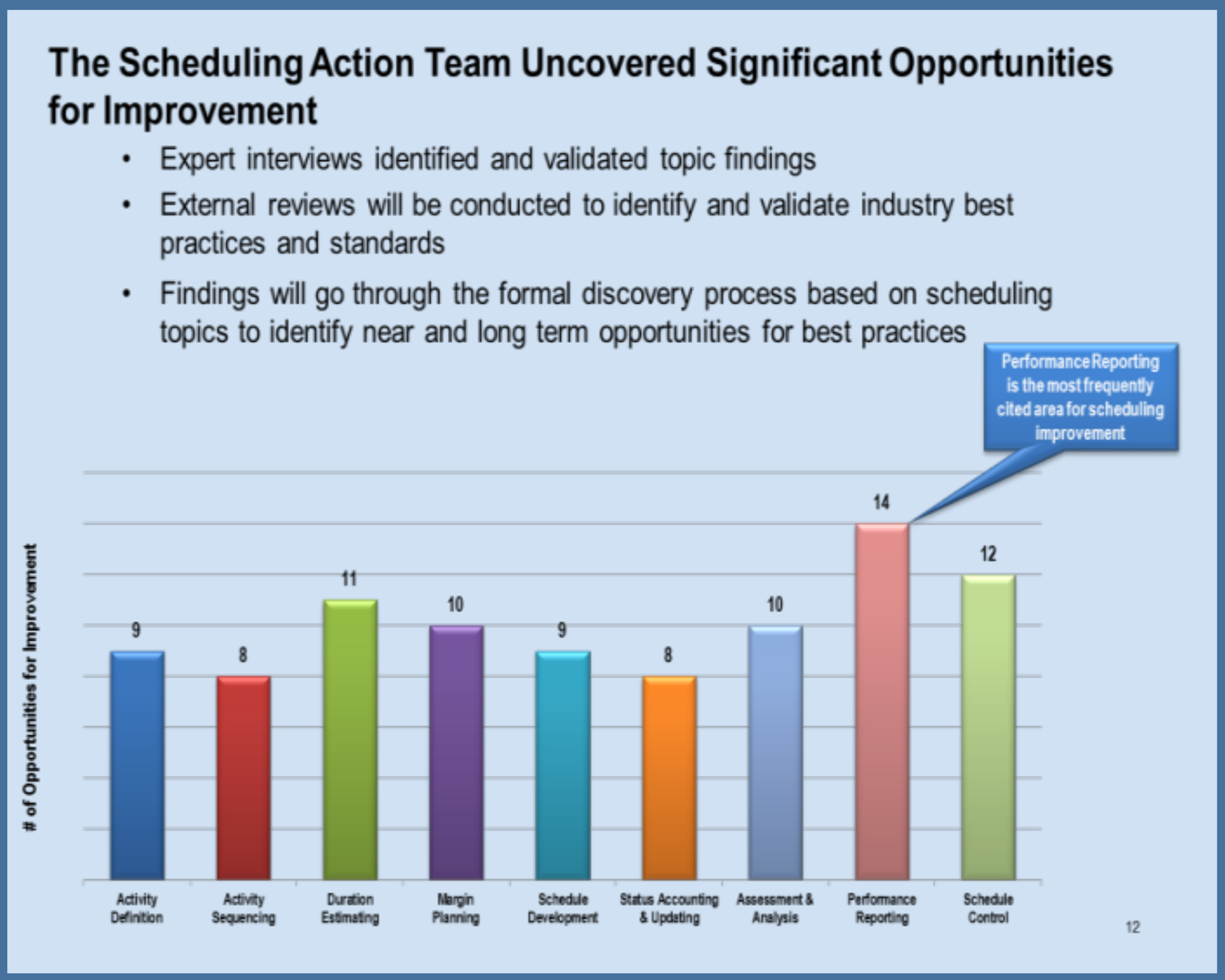
Action Team Structure: Leadership, Resources, and Projects



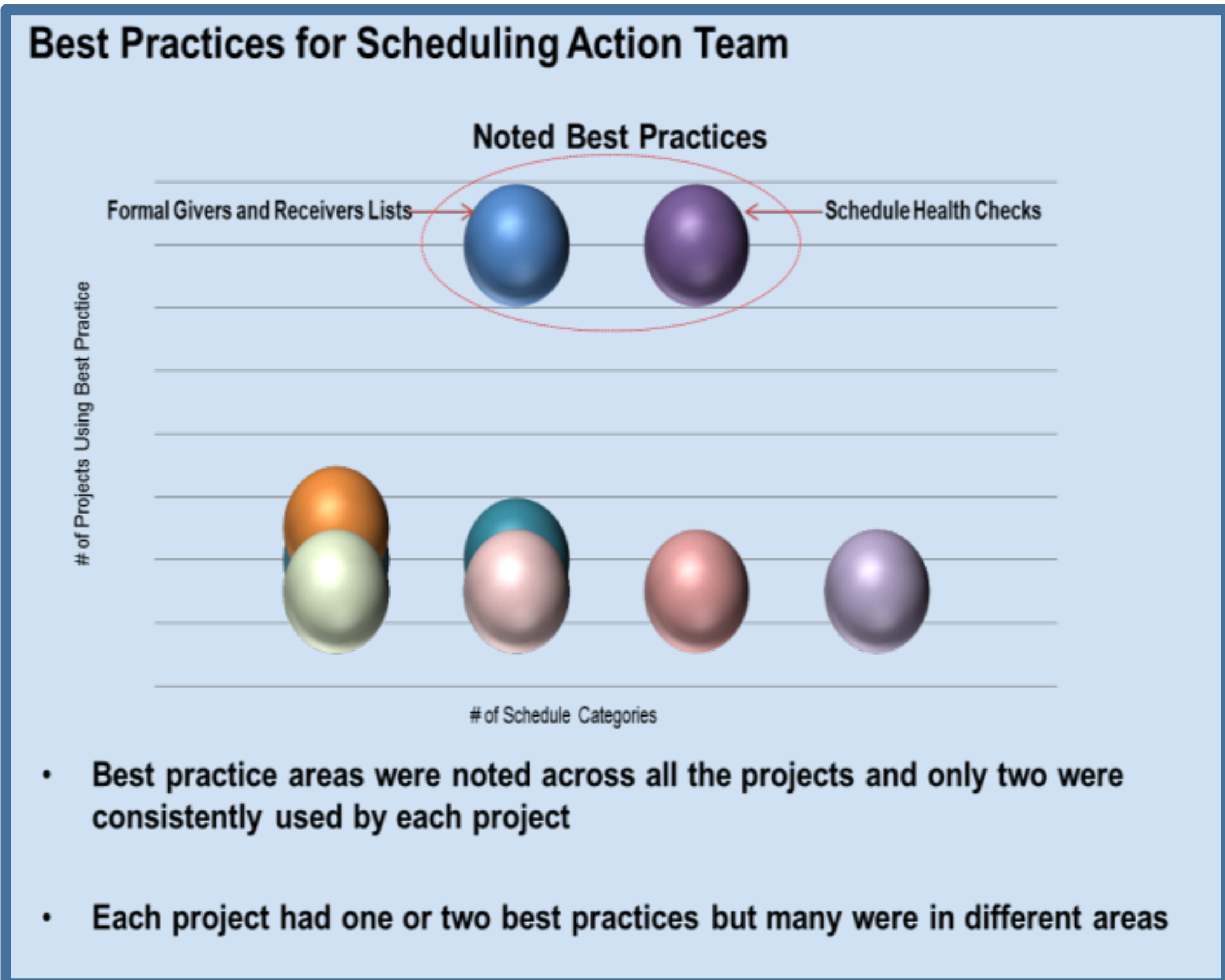
Action Team Schedules are phased to maximize team impact and results



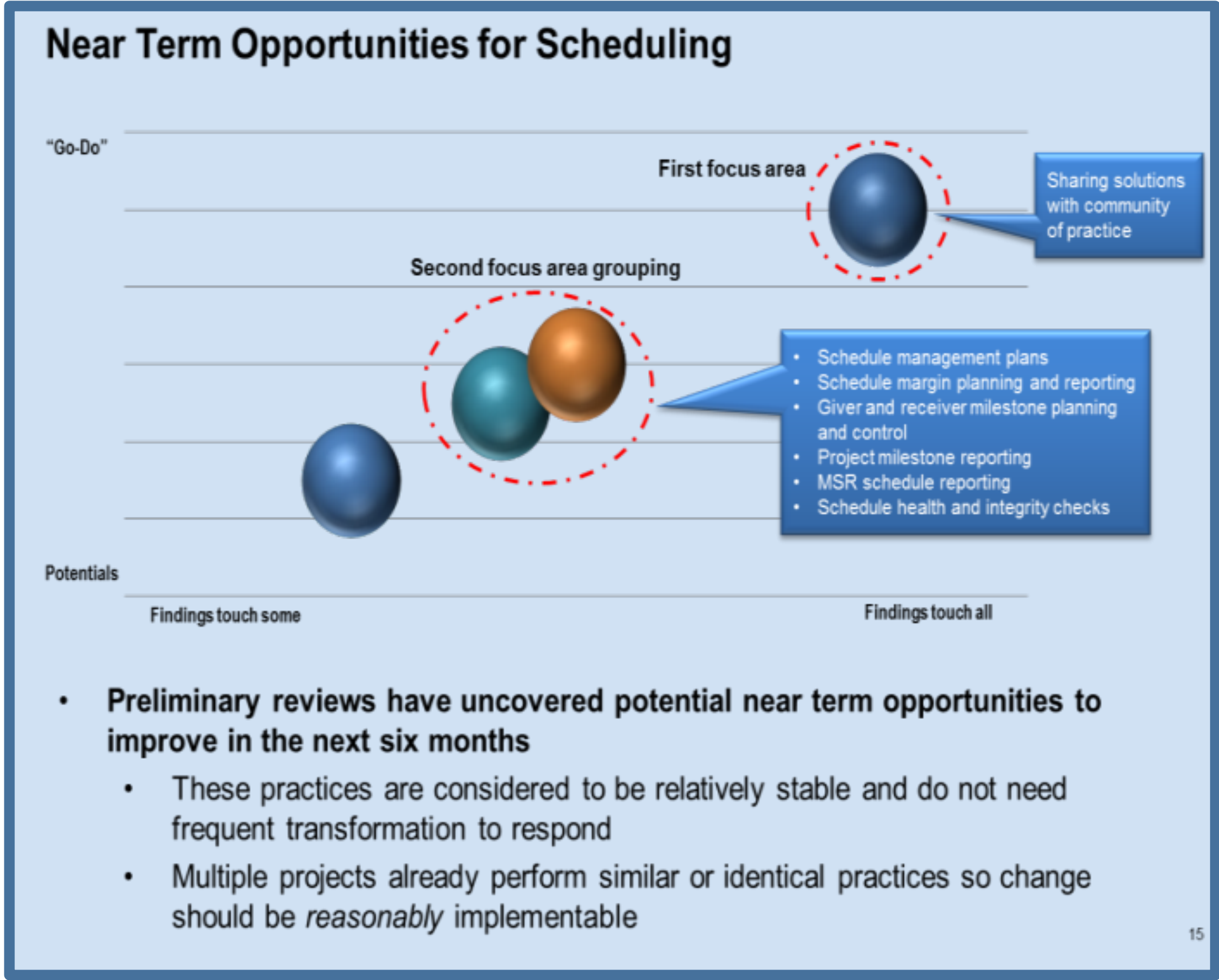
Example: Schedule Action Team Current Findings



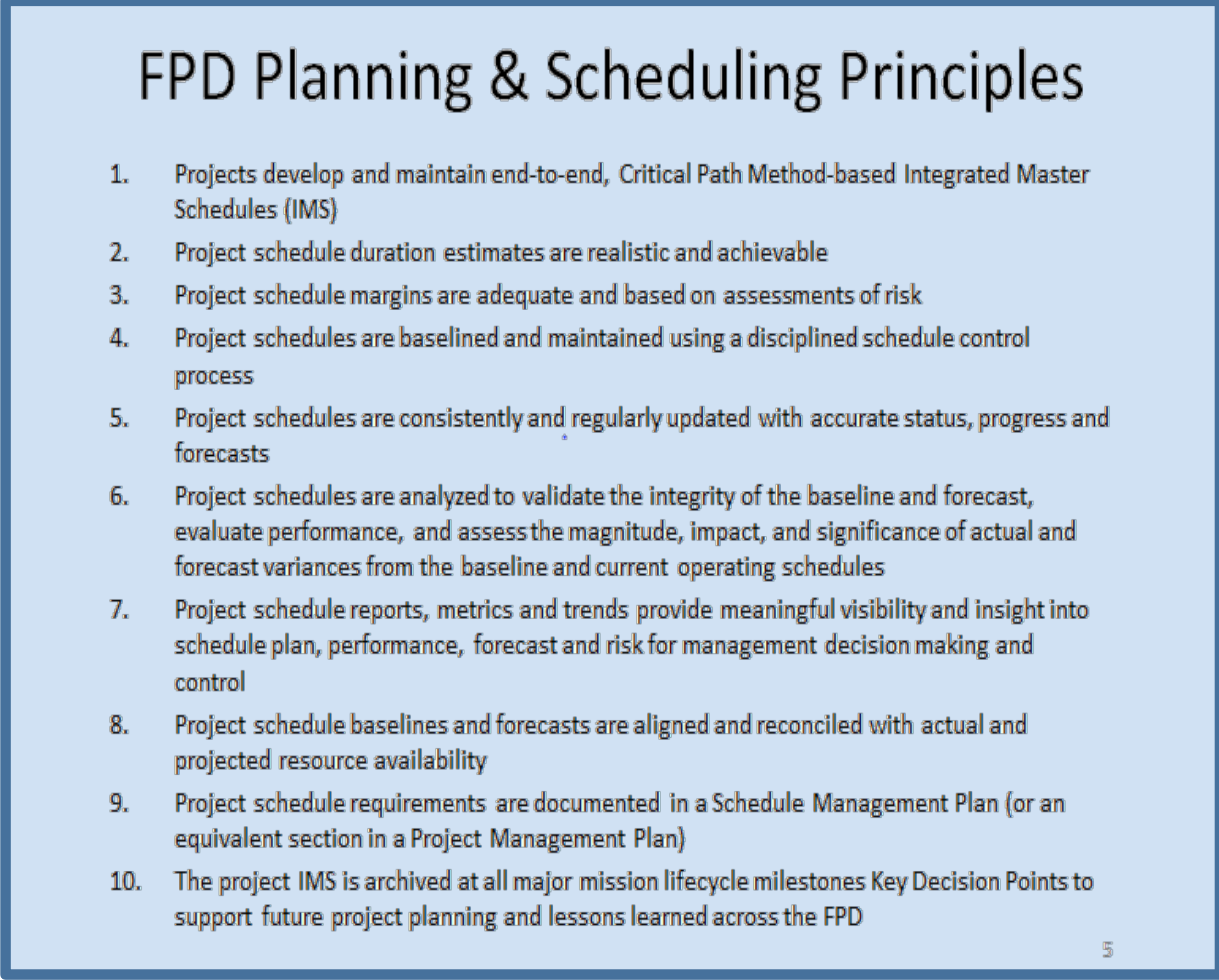
Opportunities for improvement



Best Practice Areas Identified



Near Term Next Steps



Principles

Best Practices
Document Schedule Requirements in the Project Schedule Management Plan
Assign a Lead Planner/Scheduler to the Project
Organize the Project Schedule Office / War Room
Plan a Successful Schedule Summit
Develop the Project-Level Integrated Master Schedule
Develop In-House Subsystem Schedules Using the Product Development Lead Checklist
Create an Integrated Master Schedule Database in MS Project
Estimate Realistic Activity Durations
Document the Schedule Basis of Estimate
Verify Schedule Integrity with Schedule Health Checks
Identify and Control Giver/Receiver Milestones
Plan the Project Schedule Margin
Establish and Control the Schedule Baseline
Implement a Schedule Control Board
Status and Update the Project Integrated Master Schedule
Design the Project Schedule Book
Report the Critical Path for MSR
Perform a Schedule Risk Analysis and Report the Results
Assess Baseline Schedule Performance with the Baseline Execution Index (BEI)
Assess Current Schedule Performance with the Current Execution Index (CEI)
Assess Near-Term Schedule Stability with the Volatility Index (VI)
Assess Schedule Efficiency Along the Critical Path
Report Project Control Milestone Performance and Forecast
Report Total Slack Changes and Trends
Report Schedule Margin-to-Launch Trend
Prepare and Update the Critical Milestone Schedule for MSR
Prepare an Integrated Master Schedule Data Requirements Document
Resource/Cost Load the Project Integrated Master Schedule
Archive the Project Integrated Master Schedule

Detailed Best Practices

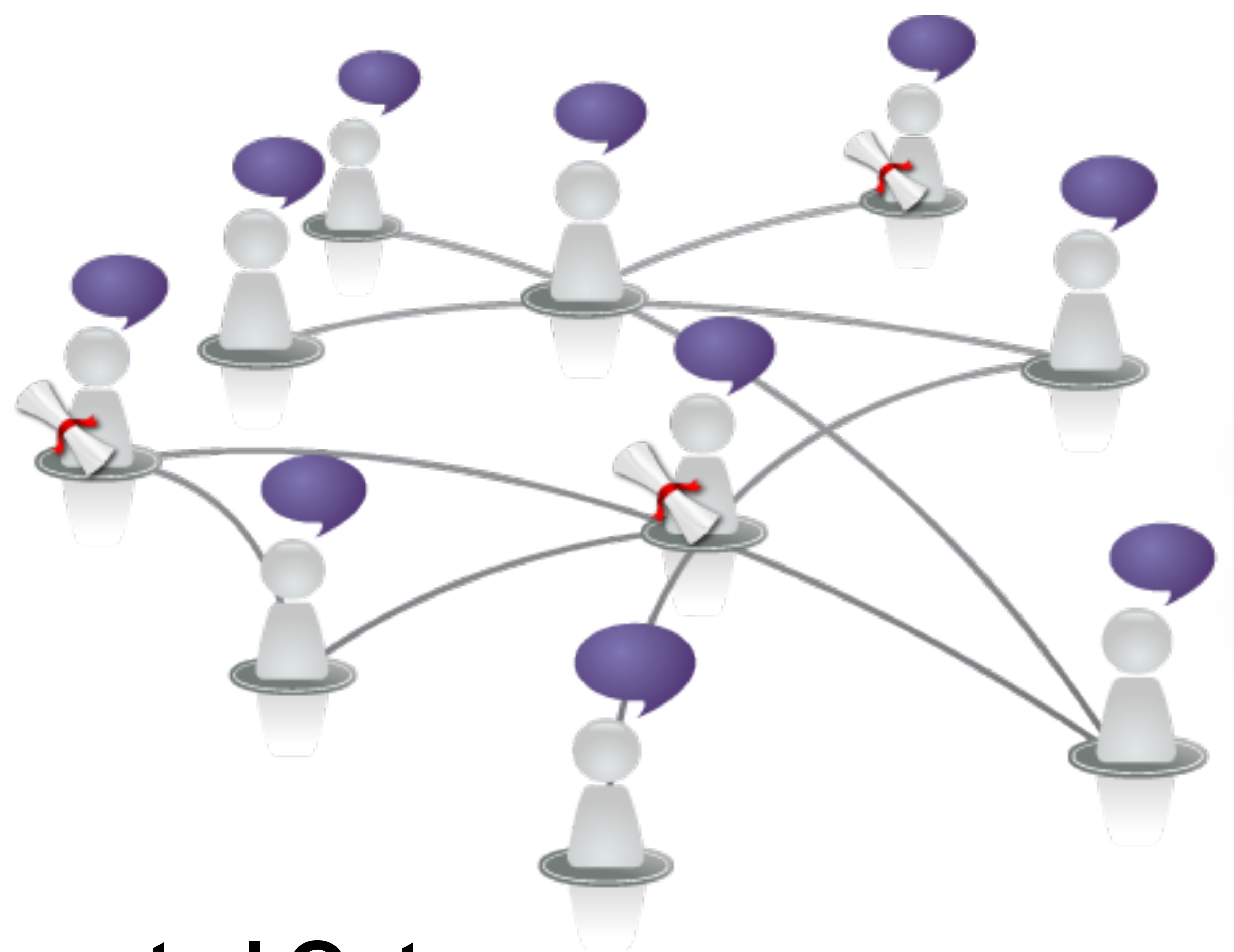


Progress to date:

Action Team	Progress to date	Next steps
Scheduling	<div><div>✓</div> Interviewed 12 projects for best practices</div> <div><div>✓</div> Established Common set of Scheduling Principles</div> <div><div>✓</div> Updating guidelines (e.g. NPR7120.7)</div>	<div><div>❑</div> Develop more robust interactive community to share (wikis, SharePoint, etc.)</div> <div><div>❑</div> Determine training and other avenues for best method to transfer best practices across community</div>
Management Reporting	<div><div>✓</div> Assessing stakeholder needs for MSR reporting</div> <div><div>✓</div> Streamlining the data collection process</div>	<div><div>❑</div> Define Code 400's requirements for the Flight Projects Master Schedule</div> <div><div>❑</div> Establish distribution list and process</div>
Earned Value Management	<div><div>✓</div> Assembled sub-teams and discussed objectives<div><div>✓</div> Process/Policy (Jonathan Bryson)</div><div><div>✓</div> Tools (Nakia Marks)</div><div><div>✓</div> Training (Walt Majerowicz)</div><div><div>✓</div> Reporting (J. McKeever)</div></div> <div><div>✓</div> "Call" sub-team members</div>	<div><div>❑</div> Organize EVM All-hands</div> <div><div>❑</div> Work with ICESat-2 and other projects as a pathfinder to a broader Institutional solution</div> <div><div>❑</div> Gather artifacts from projects and personnel</div>
Business Skills Development, now "Business Rapid Information Skills & Knowledge" (BRISK)	<div><div>✓</div> Identified parallel efforts going on in Code 150, AETD, PAAC contract, and at the Division and Project levels</div> <div><div>✓</div> Coordinating activities and building a sustainable, accessible knowledge base</div>	<div><div>❑</div> Re-run a "census" of resources personnel to understand demographics</div> <div><div>❑</div> Develop Action List from the 15-20 recent PIP Projects</div> <div><div>❑</div> Improve the use of BReady and Code 400 website as repositories</div> <div><div>❑</div> Develop RAAssessment Tool to support developmental discussions with supervisor</div>
Cost Estimating	<div><div>✓</div> Identifying key SMEs at GSFC who can guide a project JCL and other critical project checkpoint requirements</div> <div><div>✓</div> Evaluating tool options – viewed demo of JACS and DICE</div>	<div><div>❑</div> Organize a discovery session with projects – fill in any gaps</div> <div><div>❑</div> Create a standardized process/methodology; a "how-to" guideline</div>

Expected Impact

We will uncover best practices and identify subject matter experts to leverage across the Center to improve our project management practices



The Future FPD

An integrated community of practitioners and recognized subject matter experts across the projects leading to higher efficiency, improved integration of teams, recognizing pool of experts, and improved business training and standard operating procedures for project performance

Expected Outcomes

- Updated Code 400 guidelines
- Action team results incorporated across community
- Improved training and workshops
- Improved workforce feedback
- Removed or diminished stove-piping within divisions and directorate
- Recognized subject matter experts and best practices across Code 400
- “Catch an Expert” project planning and control showcase
- Standardized tools and approaches
- New methods of sharing:
 - Guidelines
 - Wiki
 - SharePoint knowledge portals

Next Steps – The Path Forward

- Continue with plans to hire “paradigm shifting” resources within Code 400
 - Leverage current attrition and retirements to staff directorate with a few SMEs who can help direct the projects toward new processes
 - Use 400/403 experts as a “compass” to direct projects to resources
 - Train staff to embrace multi-dimensional project control skill set
- Assist and endorse change. Allow your SMEs to share knowledge and be resources for the community. Participate and encourage key staff to jump in and help
- Evolve to a community of known experts and practitioners across the FPD and Center, rather than creating expertise/capability within a “stove pipe” or single organization—we can’t all be “hired guns” to define our processes. Help break down barriers of organizational boundaries
- Collaborate across other projects with all Directorates within the Center and externally
- Your senior leadership involvement (Project, Division) is key to our success!!!

Set a philosophy that being outstanding at technical development and operations is not good enough anymore, and to achieve true project management excellence we have to improve our business practices